into underground mines without approval of the regulatory authority in accordance with § 817.41(h).

(2) The diversion and its appurtenant structures shall be designed, located, constructed, and maintained to—

(i) Be stable;

(ii) Provide protection against flooding and resultant damage to life and property;

(iii) Prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and

(iv) Comply with all applicable local, State, and Federal laws and regulations.

(3) Temporary diversions shall be removed when no longer needed to achieve the purpose for which they were authorized. The land disturbed by the removal process shall be restored in accordance with this part. Before diversions are removed, downstream water-treatment facilities previously protected by the diversion shall be modified or removed, as necessary, to prevent overtopping or failure of the facilities. This requirement shall not relieve the operator from maintaining water-treatment facilities as otherwise required. A permanent diversion or a stream channel reclaimed after the removal of a temorary diversion shall be designed and constructed so as to restore or approximate the premining characteristics of the original stream channel including the natural riparian vegetation to promote the recovery and the enhancement of the aquatic habitat.

(4) The regulatory authority may specify additional design criteria for diversions to meet the requirements of this section.

(b) *Diversion of perennial and intermittent streams.* (1) Diversion of perennial and intermittent streams within the permit area may be approved by the regulatory authority after making the finding relating to stream buffer zones called for in 30 CFR 817.57 that the diversions will not adversely affect the water quantity and quality and related environmental resources of the stream.

(2) The design capacity of channels for temporary and permanent stream channel diversions shall be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream from the diversion.

(3) The requirements of paragraph (a)(2)(ii) of this section shall be met when the temporary and permanent diversions for perennial and intermittent streams are designed so that the combination of channel, bank and floodplain configuration is adequate to pass safely the peak runoff of a 10-year, 6-hour precipitation event for a temporary diversion and a 100-year, 6-hour precipitation event for a permanent diversion.

(4) The design and construction of all stream channel diversions of perennial and intermittent streams shall be certified by a qualified registered professional engineer as meeting the performance standards of this part and any design criteria set by the regulatory authority.

(c) *Diversion of miscellaneous flows.* (1) Miscellaneous flows, which consist of all flows except for perennial and intermittent streams, may be diverted away from disturbed areas if required or approved by the regulatory authority. Miscellaneous flows shall include ground-water discharges and ephemeral streams.

(2) The design, location, construction, maintenance, and removal of diversions of miscellaneous flows shall meet all of the performance standards set forth in paragraph (a) of this section.

(3) The requirements of paragraph (a)(2)(ii) of this section shall be met when the temporary and permanent diversions for miscellaneous flows are designed so that the combination of channel, bank and flood-plain configuration is adequate to pass safely the peak runoff of a 2-year, 6-hour precipitation event for a temporary diversion and a 10-year, 6-hour precipitation event for a permanent diversion.

[48 FR 43993, Sept. 26, 1983]

### § 817.45 Hydrologic balance: Sediment control measures.

(a) Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:

(1) Prevent, to the extent possible, additional contributions of sediment to

stream flow or to runoff outside the permit area,

(2) Meet the more stringent of applicable State or Federal effluent limitations,

(3) Minimize erosion to the extent possible.

(b) Sediment control measures include practices carried out within and adjacent to the disturbed area. The sedimentation storage capacity of practices in and downstream from the disturbed areas shall reflect the degree to which successful mining and reclamation techniques are applied to reduce erosion and control sediment. Sediment control measures consist of the utilization of proper mining and reclamation methods and sediment control practices, singly or in combination. Sediment control methods include but are not limited to—

(1) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and prompt revegetation as required in § 817.111(b);

(2) Stabilizing the backfilled material to promote a reduction of the rate and volume of runoff in accordance with the requirements of § 817.102;

(3) Retaining sediment within disturbed areas;

(4) Diverting runoff away from disturbed areas;

(5) Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;

(6) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume, or trap sediment;

(7) Treating with chemicals; and

(8) Treating mine drainage in underground sumps.

[44 FR 15422, Mar. 13, 1979, as amended at 48 FR 44781, Sept. 30, 1983]

### § 817.46 Hydrologic balance: Siltation structures.

(a) For the purposes of this section only, *disturbed areas* shall not include those areas—

(1) In which the only surface mining activities include diversion ditches, siltation structures, or roads that are designed, constructed and maintained in accordance with this part; and

(2) For which the upstream area is not otherwise distributed by the operator.

(b) *General requirements.* (1) Additional contributions of suspended solids and sediment to streamflow or runoff outside the permit area shall be prevented to the extent possible using the best technology currently available.

(2) All surface drainage from the disturbed area shall be passed through a siltation structure before leaving the permit area, except as provided in paragraph (b)(5) or (e) of this section.

(3) Siltation structures for an area shall be constructed before beginning any undergound mining activities in that area, and upon construction shall be certified by a qualified registered professional engineer, or in any State which authorizes land surveyors to prepare and certify plans in accordance with § 784.16(a) of this chapter a qualified registered professional land surveyor, to be constructed as designed and as approved in the reclamation plan.

(4) Any siltation structure which impounds water shall be designed, constructed and maintained in accordance with § 817.49 of this chapter.

(5) Siltation structures shall be maintained until removal is authorized by the regulatory authority and the disturbed area has been stabilized and revegetated. In no case shall the structure be removed sooner than 2 years after the last augmented seeding.

(6) When the siltation structure is removed, the land on which the siltation structure was located shall be regraded and revegetated in accordance with the reclamation plan and §§ 817.111 through 817.116 of this chapter. Sedimentation ponds approved by the regulatory authority for retention as permanent impoundments may be exempted from this requirement.

(7) Any point-source discharge of water from underground workings to surface waters which does not meet the effluent limitations of § 817.42 shall be passed through a siltation structure before leaving the permit area.

(c) *Sedimentation ponds.* (1) Sedimentation ponds, when used, shall—

(i) Be used individually or in series;